

REMARKS:

Claims 1 to 8 and 24 to 45 are pending. Claims 1, 26 and 36 are the independent claims and have been amended herein. Entry of this response, reconsideration and further examination are respectfully requested.

Claim Rejections

Claims 1 to 3, 5, 8, 24 to 28, 30, 33 to 38, 40, and 43 to 45 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,484,186 (Rungta) in view of U.S. Patent No. 6,473,775 (Kusters). Claims 4, 6 to 7, 29, 31, 32, 39, 41 and 42 were rejected under § 103(a) over Rungta in view of Kusters and further in view of U.S. Patent No. 5,819,292 (Hitz). Applicants respectfully traverse these rejections.

Discussion

Claims 1 to 8, 24 and 25: Claim 1 as amended is reproduced below:

1. A method of capturing the contents of files and directories in a file system, said file system comprising a set of storage blocks for plural files in a mass storage system including steps of
 - recording an active map in said file system of said storage blocks used by said plural files in said active file system;
 - recording a consistency point in said file system including a consistent version of said plural files in said file system at a previous time, said consistency point including a copy of said active map at said previous time; and

refraining from writing data to storage blocks in response to said active map and at least one said copy of said active map included in said consistency point.

The applied art is not seen by Applicants to disclose or to suggest the foregoing features of claim 1.

First, the Office Action indicated that Rungta teaches “recording an active map in said file system of said storage blocks used by said active file system.” Rungta’s file map 220 apparently is being equated with the claimed active map. However, Rungta’s file map appears to Applicants to be for a **file**, not for a **file system** as claimed. For example, col. 2, lines 40 to 43, of Rungta states that “[t]he **file** includes metadata 215 (data about **the file**)” and that “[m]etadadata 215 specifically includes a file map 220 that maps the logical order of the blocks comprising **the file**” (emphasis added). A map for a file is entirely different from an active map of storage blocks used by **an active file system**.

Applicants have emphasized this difference by amending the claim language to recite “recording an active map in said file system of said storage blocks used by **said plural files** in said active file system.” Such a map is clearly different from a map for a single file.

Second, the Office Action indicated that Rungta teaches “recording a consistency point in said file system including a consistent version of said file system at a previous time, said consistency point including a copy of said active map at said previous time.” Operations involving Rungta’s snapshot file map 420 and bitmap 430 apparently are being equated with this feature. However, both snapshot file map 420 and bitmap 430 appear to Applicants to be concerned with a snapshot and block usage, respectively, for a **file**. In contrast, the step recited

in claim 1 involves a consistency point in a file system including a consistent version of **the file system**.

Applicants have emphasized this difference by amending the claim language to recite “recording a consistency point in said file system including a consistent version of **said plural files in** said file system at a previous time.” Such a consistency point is clearly different from a snapshot for a file.

Third, the Office Action indicated that Rungta teaches “at least one said copy of said active map included in said consistency point.” The Office Action indicated in the Response to Arguments section that Rungta’s “snapshot metadata [that] retains the copy of the original metadata of the file” corresponds to this feature of claim 1. However, as even indicated in the quoted sentence from the Office Action, “the original metadata” is “of **the file**” (emphasis added), not for **a file system**. As discussed above, the active map in claim 1 is of blocks used by (plural files in) a file system.

Fourth, the Office Action indicated that Kusters teaches “refraining from writing data to storage blocks in response to said active map.” However, this is not the entirety of what is recited by claim 1. Rather, claim 1 recites “refraining from writing data to storage blocks in response to said active map **and** at least one said copy of said active map included in said consistency point” (emphasis added). Applicants respectfully point out that this operation involves “said active map” and “at least one said copy of said active map included in said consistency point,” not just “said active map.”

In this regard, the Office Action stated that Kusters “discloses the snapshot driver maintaining a listing, such as the snapshot bitmap 270.” However, even if Kusters discloses refraining from writing data to storage blocks in response to this snapshot bitmap, this feature is not equivalent to claim 1’s step of refraining from writing responsive to an active map **and** a copy of the active map. Applicants do not see anything in Kusters that is equivalent to the claimed operation involving an active map **and** a copy of the active map.

In view of the foregoing, Applicants respectfully submit that claim 1 is not obvious in view of Rungta and Kusters. Accordingly, reconsideration and withdrawal are respectfully requested of the § 103(a) rejection of claim 1 and its dependent claims 2 to 8, 24 and 25, as is allowance of those claims.

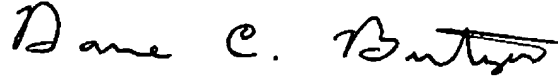
Claims 26 to 45: Claims 26 to 35 recite file systems that substantially implement the methods of claims 1 to 8, 24 and 25. Claims 36 to 45 recite memories that store instructions to implement those methods. Accordingly, withdrawal of the rejection and allowance of those claims are respectfully requested at least for the reasons set forth above.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner’s earliest convenience.

Applicants' undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,

A handwritten signature in black ink that reads "Dane C. Butzer". The signature is written in a cursive style with a horizontal line extending from the end of the name.

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